DOCUMENT RESUME

ED 375 304 CE 067 470

AUTHOR Keegan, Desmond
TITLE Very Large Distance Education Systems: The Case of China. ZIFF Papiere 94.
INSTITUTION Fern Univ., Hagen (Germany). Inst. for Research into Distance Education.
PUB DATE Sep 94
NOTE 84p.
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC04 Plus Postage.
DESCRIPTORS *Access to Education; Adult Education; Cost Effectiveness; *Distance Education; Foreign Countries; Higher Education; *Mass Instruction; Nontraditional Education; *Open Universities
IDENTIFIERS *China

ABSTRACT

One answer to the magnitude of the world education crisis is the provision of very large education systems, capable of enrolling 100,000 students or more. The largest distance system is the Dianda or Chinese Radio and Television University (CRTVU) system. Dianda is best described as a network of one central open university that does not enroll students and 43 open universities or Municipal or Autonomous Region Television Universities (PRTVUs) that do. CRTVU is responsible for nationwide course and materials development; the PRTVUs have a limited role in this area. The CRTVU has a staff of 600; the typical PRTVU staff numbers 300. PRTVU students receive 3 years of study leave on full pay. The Chinese system and its constituent universities fall clearly within Group 2 (open or distance teaching universities) of Keegan's (1982) topology of distance systems, but they have strong affinities with Group 4 institutions (the consultation system). (This report includes information on the 44 Dianda institutions, a list of 37 references, map of China, figures depicting administrative level and statistics, and Keegan's typology of distance learning systems). (YLB)

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FernUniversität
-Gesamthochschule- in Hagen

ZIFF PAPIERE 94

Desmond Keegan

Very Large Distance Education Systems : The Case of China

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Hagen, September 1994

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Herausgegeben von Dr. Helmut Fritsch
Redaktion: Frank Doerfert, Helmut Fritsch, Helmut Lehner (Konstanz)

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VERY LARGE DISTANCE EDUCATION SYSTEMS: THE CASE OF CHINA

BY

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1994

Desmond Keegan was Visiting Professor of Distance Education at the Fernuniversität in 1980. From 1984 to 1985 he was foundation Director General of the Italian distance university system, Consorzio per l'Università a Distanza. In 1989 he was invited by the State Education Commission of the People's Republic of China to participate in the tenth anniversary celebrations of the Chinese distance university system. In late 1994 his book *Foundations of distance education* will be published in Chinese in Beijing, one of the first books by a Western educator officially to be translated into Chinese.

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1. RESEARCH ON VERY LARGE DISTANCE SYSTEMS

Introduction

This monograph considers very large distance systems as a contribution to the study of distance education (*Fernstudienforschung*). It analyses the world's largest system, the Chinese *Dianda*, often referred to as China's Radio and Television University (CRTVU) system.

For the purpose of this monograph a very large education system is defined as one which has an enrolment of over 100 000 students.

Very large education systems

In the preparation of this monograph it proved impossible to find from computerised databases references to very large university systems, whether face-to-face or at a distance.

Nevertheless, many countries in the world today need very large university systems to deal with their educational problems.

These educational problems are described by Coombs (1985) in his *The world crisis in education* as 'the rapid growth of learning needs', and 'the growing financial squeeze'. He claims that by the early 1970s 'the halcyon days were over for virtually all educational systems in both the industrially advanced and the developing nations. In contrast to their relatively favourable ability to level claims on public resources in the 1950s and 1960s, education managers and their systems were caught in a squeeze between rising unit costs and resisting budget ceilings' (1985:136).

Coombs' book gives startling projections of the rapid growth of learning needs at primary, secondary and tertiary levels to the year 2000 and shows that they are truly formidable in size especially when compared with the observed increment achieved during the preceding decades. The African region, he claims, would have to increase total enrolments by 116 millions between 1980 and 2000, compared to only 55 millions added (with enormous effort and sacrifice) between 1960 and 1980. Latin America and South Asia would both have to add about the same number between 1980 as was added between 1960 and 1980, but the addition of each succeeding thousand or million becomes harder than the previous one.

One answer to the magnitude of the world education crisis is the provision of very large education systems, capable of enrolling 100 000 students a year or more.

Very large face-to-face universities

It is possible that very large conventional face-to-face institutions can make a contribution to the solution of the problem. University of Rome I for example, often referred to as 'La Sapienza', has an enrolment of 150 000. It has maintained these numbers in spite of the creation of University of Rome II at Tor Vergata in the late 1970s and the creation of the University of Rome III in the late 1980s. Its structures, however, are based on the premise that less than 20% of its students will attend the university and that the rest will study at home.

Very large face-to-face conventional education systems have limited ability to respond to the crisis in educational provision because:

* the growing financial squeeze, referred to by Coombs, means that few governments in either developed or developing countries can build and maintain buildings to house over 100 000 students

* the last decade has seen a querying of the link between education and employment with a concerted drive for more productivity from universities for the taxpayers' money, so that governments are less inclined to increase funding for education

* the basic cost equation of very large face-to-face systems, usually given as:

$$\text{Faculty salary expense} = \frac{\text{Weekly student hours} \times \text{Average faculty salary}}{\text{Average class size} \times \text{Average faculty load}}$$

produces an enormous, recurring financial burden, where weekly student hours is a multiple of 100 000.

Very large distance universities

Very large distance education institutions may well provide the only viable solution to many of these problems of educational provision in both developed and developing countires. Examples of such institutions, with their location, date of foundation and estimated enrolment in 1994 are:

Name	Country	Date of foundation	Enrolment
CNED	France	1939	325 000
Open University	United Kingdom	1969	150 000
UNED	Spain	1972	130 000

Name	Country	Date of foundation	Enrolment
Sukhothai Thammatirat OU	Thailand	1978	450 000
CRTVU	China	1979	850 000
Air and Correspondence U	Korea	1982	300 000
Universitas Terbuka	Indonesia	1984	140 000

This grouping of very large distance education systems, and other more recently founded open universities which are at or near the 100 000 enrolment level, form an important subset of distance education institutions and would justify specialist study.

Educational administrators and planners in both national and state systems have pressing needs for the results of research on how such institutions behave, how they cope with their massive dispersed student bodies, their capital investment and annual recurrent costs, and their success or failure in achieving academic excellence when compared with smaller universities, both face-to-face and at a distance.

It is a task for centres of distance education research (*Instituten für Fernstudienforschung)* to undertake such research and publicise the results of the findings to administrators and planners in both developed and developing countries.

This monograph undertakes a preliminary analysis of the largest distance system, the *Dianda* system of China.

2. THE CASE OF CHINA

Dianda: The Chinese Radio and Television University

Dianda is the Chinese equivalent of an acronym for *Zhongguo guangbo dianshi daxue* (Chinese Radio and Television University). Because of the complexity and size of the structure one speaks of central *Dianda*, provincial *Dianda*, county *Dianda* and so on.

In Chinese one says 'I studied with *Dianda*' or 'Are you enrolled in *Dianda*?' or 'How are your *Dianda* studies going?'.

Dianda is best described as a network of one central open university which does not enrol students and 43 open universities which do. In the official 1993 statistics, *Education statistics yearbook of Radio and TV University in China 1992-1993*, each of the component universities is listed in the order below. To this list is added the staffing level for 1993.

	Name of university	Staffing 1993	Students 1993
1.	CRTVU	598	0
2.	Beijing Open University	605	14657
3.	Tianjin Open University	1285	21562
4.	Hebei Open University	1807	24791
5.	Shanxi Open University	560	13439
6.	Inner Mongolian Open University	960	5295
7.	Liaoning Open University	1392	46965
8.	Shenyang Open University	349	10277
9.	Dalian Open University	187	26155
10.	Jilin Open University	780	41104
11.	Changchun Open University	135	6084
12.	Heilongjiang Open University	2302	30529
13.	Harbin Open University	399	6341
14.	Shanghai Open University	1228	13968
15.	Jiangsu Open University	2965	35092
16.	Nanjing Open University	625	4494
17.	Zhejiang Open University	1172	35352
18.	Ningbo Open University	167	10898
19.	Anhui Open University	656	12519
20.	Fujian Open University	678	17304
21.	Xiamen Open University	62	2373
22.	Jiangxi Open University	801	13088
23.	Shandong Open University	3734	40037
24.	Qingdao Open University	382	18604
25.	Henan Open University	2188	41673
26.	Hubei Open University	2239	22297

27.	Wuhan Open University	910	2697
28.	Hunan Open University	993	25244
29.	Guangdong Open University	1950	34015
30.	Guangzhou Open University	223	6562
31.	Shenzhen Open University	134	3489
32.	Guangxi Open University	742	12447
33.	Hainan Open University	96	1266
34.	Sichuan Open University	1083	34176
35.	Chengdu Open University	82	22788
36.	Chongqing Open University	136	10483
37.	Guizhou Open University	948	9474
38.	Yunnan Open University	570	37392
39.	Shaanxi Open University	1622	10181
40.	Xian Open University	421	5357
41.	Gansu Open University	595	8681
42.	Qinghai Open University	86	613
43.	Ningxia Open University	293	5651
44.	Xinjiang Open University	1122	6471
	TOTAL	40262	852885

Of the 40 262 staff employed in 1993, 123 are of professorial status, 2897 senior lecturers, 10 872 lecturers and 12 071 assistant lecturers. There are 14 299 technical or administrative staff. In addition there are 12 528 part-time lecturers.

To understand the system it is important to realise that the CRTVU, which is located at Fuxing Road, Beijing, does not enrol any students but has responsibility for nationwide course and materials development, and that the 43 open universities enrol students but have a limited role in course and materials development.

You (1992) divides the development of distance education in China into three stages:

(i) 1914 - 1949
(ii) 1949 - 1966
(iii) 1979 - present.

Stage 1. 1914 - 1949

This stage runs from the introduction of distance education in China to the foundation of the People's Republic by Mao Zedong on 1 October 1949. It shows that the tradition of studying at a distance goes back 80 years in China and that the success and status of distance education in the 1990s both have long antecedents. The first correspondence courses were started by the Commercial Press in 1914 and correspondence colleges were developed right up to Liberation.

Stage 2. 1949 - 1966

This period from the foundation of the New China to the Cultural Revolution is seen by You (1992:1) as a period in which 'distance education was mainly carried on at colleges and universities'.
Correspondence courses began from the teachers colleges in 1951; the People's University of China and the Northeast Teachers University began correspondence courses in 1953 (Yu 1992:1); in 1953 Shanghai Radio Station set up educational broadcasts; in 1954 it set up 'a sparetime junior cultural continuation college for workers and peasants' teaching by radio with the help of correspondence courses taught by professional teachers; in 1957 this became the Shanghai Self-study Radio College; in 1959 Tianjin started a Radio Correspondence College; in 1960 Radio Further Study Colleges were developed in Harbin, Jiangsu and Shanxi; in 1963 the Ministry of Agriculture and other organisations established a broadcasting network for agriculture; in 1964 a Youth Broadcasting College was set up in Shanxi Province and later the Party's Central Committee required all the provinces to popularize broadcasting education (You 1992:6).

The high efficiency, broad applicability and dynamism of distance education clearly made it an excellent tool for contributing to economic development and socialist modernization, while enhancing the cultural quality of the people.

Educational television began in China in the 1950s and in the late 1950s planning began for what is best described as China's first television-based open university. The Beijing TV University opened in March 1960 and was quickly followed by foundations of other television universities in Shanghai, Shenyang, Changchun, Harbin and Guangzhou (Yu 1992:1; You 1992: 2).

In their UNESCO report Zhao and Mu (1988) claim that 'China was one of the first countries to use radio and television for higher education purposes' and they give this description of the foundation of China's first open universities:

> During the 1960s, soon after television broadcasting began to develop in China, the first television universities (TVUs) were founded in Beijing, the capital, and other principal cities to meet the demand for adult education. This new type of universities were (sic) well received and showed great potential as soon as they came into being. During the period from 1960 to 1966, more than 8 000 students graduated from the Beijing Television University and over 50 000 students finished single course studies through its teaching programmes. Most of them went on to make valuable contributions to industrial and agricultural enterprises or to cultural and educational institutes. The television universities of other places were all equally successful. Unfortunately, this newly emerging initiative was interrupted by the "Cultural Revolution" (1966-1976). (1988:8).

McCormick, of the Open University of the United Kingdom, in his authoritative chapter on China in *The distance teaching universities* (1982: 143-154) writes:

> The Central Broadcasting and Television University (usually called Central China Television University - CCTU) in its present form started preparing courses in 1978 and was launched in February 1979. A preliminary start had already been made in 1977 with courses in English, electric circuits and mathematics offerred through 'open broadcasting', by the Ministry of Education and the Education Department of the Chinese Central Television (CCTV). But the origins of CCTU go back further than this. The Beijing Television College (now connected with CCTU as the Beijing Broadcasting and Television University), opened in 1960 with five departments: mathematics, physics, chemistry, Chinese and English. Its teaching was through television, correspondence material and face to face teaching. From the period 1960-66 some 8 000 students graduated wih another 50000 students studying a single subject. The Cultural Revolution disrupted television and Beijing TV College was closed. Indeed all educational television suffered and, for example, Shanghai's 'open broadcasting' did not resume until 1975 (1982:142).

The Chinese Television Universities of the early 1960s were not reported in the Western distance education literature as they predated the foundation of the Western open universities of the early 1970s which gave the field of distance education a new elan and status.

They are not referred to in either of the two major comparative studies of distance education published in the 1960s, Peters' 537-page *Der Fernunterricht: Materialien zur Diskussion einer neuen Unterrichtsform* (1965) nor in the 620-page volume *Das Hochschulfernstudium: Materialien zur diskussion einer neuen Studienform* (1968), which does, however, have one line on China. There is, however, a full chapter on China (taken from a 1963 pre-Communist Cultural Revolution source) in Peters' 1971 volume *Texte zum Hochschulfernstudium.*

One of the major findings of Peters' work in the 1960s is phrased by the author as: *Die Südafrikanische Republik ist neben der Sowjetunion das einzige Land, in dem es eine Fernuniversität gibt* needs to be rephrased as: *Die Südafrikanische Republik ist neben der Sowjetunion und China das einzige Land, in dem es eine Fernuniversität gibt.*

This is not the place to comment on the effect of the Cultural Revolution on distance education in China. It is best to cite a Chinese commentator, specially translated from Chinese for this monograph:

> Beijing TV University was established in 1960. Although it did not survive for long, it was founded prior to the British Open University . The foundation of Beijing TV University was due to Mei Yi of the Central Broadcasting Bureau and Deng Zao of Beijing City Council. It had four faculties: Mathematics, Chemistry, Physics and Chinese. Beijing University (*Bei Da)* was responsible for two faculties and Beijing Teachers University (*Shi Da)* for the other two. The deans of the faculties of the TV University were Professor Wang Li from the Faculty of Chinese and Professor Duan Xue Fu from the Faculty of Mathematics of Beijing University. During the mid 1960s, before the Cultural Revolution started, a series of experiments were carried out to

shorten study time, to reduce the volume of study and to simplify the curriculum content, but these were pragmatic reforms without a firm theoretical basis. These TVUs lasted for about 5 to 6 years, with 8 000 graduates and more than 10 000 single subject graduates. This was an important achievement because the number of graduates was the same as the total of graduates from all adult education universities in Beijing at the time. During the Cultural Revolution the President of Beijing TVU, Professor Wu Han was tortured to death and the TVU was dissolved. If the TVUs had carried on from the 1960s to the present their prestige and structure would be extremely strong now (Guan 1984:3).

The importance of these early foundations is emphasised by their success and the involvement of leading national academics of the time.

Stage 3. 1979 - present

Planning for the establishment of the present *Dianda* system began in early 1978. A steering committee was set up with representatives from various ministries (Education, Broadcasting, Administration, Electronics, Finance, Commerce, Posts and Telecommunications) as well as representatives from other bodies: the National Planning Commission, Trades Unions , the Central Committee of the China Youth League and so on. It was chaired by the Minister of Education, with the Director of the Central Broadcasting Bureau as Vice-Chairperson. It reported to the State Council, the supreme body of government in China (McCormick 1982:58).

This committee produced a report and in mid-1978 the State Council approved the establishment of the Central Radio and Television University (CRTVU) and of 28 Provincial or Municipal or Autonomous Region Television Universities (PRTVUs).

The first courses were developed in late 1978 and in February 1979 there was nationwide enrolment of students in *Dianda* courses. By 1994 this had grown to the world's largest distance university system with an enrolment of 850 000.

It should be pointed out that this system is not the only form of distance education at university level in China. In 1994 China has three major distance university systems:

* the correspondence university system
* the self-study/university examination system
* *Dianda* (CRTVU/PRTVU) system which is the subject of this monograph.

Correspondence university system. The first university correspondence courses were developed by Northeast China Teachers University in 1952 and that university started its correspondence faculty in May 1953. Since then more and more universities have developed

correspondence systems. Normally these are departments of conventional universities but there are a number of independent correspondence universities. In a paper to the 16th ICDE World Conference, Yu Hexun (1992:2) gave the following numbers for students graduating from correspondence university courses for the years 1983-1988:

Year	Graduates
1983	135 000
1984	430 000
1985	517 000
1986	546 000
1987	778 000
1988	1 647 000

Self-study/university examination system. This is a national examination by which independent students can gain university certification by independent study following a teaching plan, and then present themselves for the university examinations. Yu Hexun claims that from 1981 to 1987 about 7 400 000 students presented themselves for these examinations. He explains that there are 76 disciplines for examination and that in the Shanghai area alone 18 universities are centres. This system as it exists today is described in a 1994 paper by Ma of the Beijing Teachers University and Hawkridge of the Open University of the United Kingdom:

> A new and flexible self-study examination was established nationally in 1983, after trials in several major cities. It attracted many young people who studied by themselves in their spare time using a prescribed syllabus, usually without attending classes, then sat examinations. If they passed, they gained credit towards a diploma of higher education.

Dianda (CRTVU/PRTVU). The analysis which follows refers only to this system.

3. HOW THE CHINESE SYSTEM WORKS

A useful research technique when dealing with distance education systems is to establish by interview the details of what a member of the staff of the distance system does for a week from Monday to Sunday, and then establish what a student enrolled in the university does for a week from Monday to Sunday. This technique often throws up research data which is vital for the understanding of the system and which frequently contrasts markedly with conventional systems. One sometimes finds, for instance, that the staff are not educationists at all but accountants, lawyers or members of some other profession - and that if they are educationists they are employed full-time at another college or university. The students' only time for university work in some instances is around midnight, as they are fully occupied in non-study activities.

In what follows this technique is applied to students and staff of the CRTVU at Fuxing, Road, Beijing and to students and staff of a provincial TVU.

CRTVU students

The CRTVU does not enrol any students.

CRTVU staff

The CRTVU has 600 staff. They may be divided roughly as follows:

50	audiovisual personnel/television personnel/radio personnel
80	administration of the system
180	full-time academics
130	editors, typesetters, collators, printers
25	textbook and magazine production
15	computing personnel
100	clerical, training staff, construction and buildings, purchasing staff
20	library
600	Total

The role of the fulltime academic staff is that of course coordinator and course processor.

The course curriculum is set by the Government State Education Commission and then the course has to be approved for distance development. Once this is done and the author chosen then the course coordinator is responsible for getting the book written; getting the degree accreditation for the distance course; checking the target audience; deciding how many chapters the book will have; deciding on the TV programmes and broadcasting detail.

These full time academic staff at the CRTVU earn (early 1990s) 300 yuan per month or 3600 yuan per year. 25% goes on electricity and other sevices; it takes 18 yuan per month to rent a house (you cannot buy real estate); it takes 20 000 to buy a car.

PRTVU students

Students receive three years study leave on full pay. Most of the previous analyses of the *Dianda* system have failed to highlight this dimension, but without this realisation the system is incomprehensible. The application for enrolment in distance education is initiated by the company and if approved by the company manager the employee has by law no work for 3 to 5 years, depending on the study programme.

The student, therefore, attends at work from Monday to Saturday but goes to the company Education Centre and not to the factory. The study programme lasts from 8.30 to 12.00 and from 1.30 to 4.30 and consists of three TV lectures per day by satellite from the CRTVU in Beijing, plus face to face lectures in the company's education centre in groups of 20, during which the tutors go through the textbooks, then students do assignments and the tutor gives evaluation and feedback. The students have to attend.

This is the basic structure. There are many other variations; if, for instance, the manager will not authorise three years study leave on full pay then they might get one or two days part time study per week and in the mid 1990s other forms of enrolment are possible.

PRTVU staff

A typical provincial *Dianda* would have 300 staff all working full time in distance education:

130	lecturers
60	av/radio/television technicians
110	support staff (clerical, laboratories, administration, cleaning)

The 130 full time lecturers are employed thus:

* some are employed as are the staff at the CRTVU as coordinators to produce courses, if the PRTVU is one of the growing number of TVUs which originate specialised courses for local training requirements

* most are employed as administrators of tutors and senior tutors and give guidance and advice to staff on their work at the study centres with students

* many like to be tutors as well as in this way they get immediate feedback on the functioning of the system and they get more money.

A course

Another useful technique in the evaluation of distance systems is the identification of the total volume of work required of a student to complete a single course and the identification of activities that may not be required of distance students for example attendance at the university

for lectures or for seminars or for tutorials or for laboratory sessions or for research periods in the library.

A typical one semester *Dianda* course would comprise:

200 page textbook
plus 20 to 40 TV programmes of 50 minutes each
plus 10 to 20 radio programmes of 50 minutes each
plus videocasettes
plus course magazine
plus one examination set by the CRTVU which typically counts for 80% of course assessment. It is held at the local centre and lasts for one and a half to two hours.

Each week of the course approximates to one chapter of the text plus one TV programme plus one assignment plus one tutor-presented face to face lecture of 50 minutes duration.

The assignments are typically handed to the tutor at the TV class and the tutor gives a mark and explanations at the next class. 20% of examination score is for the assignments.

There are three types of TV programme:

* the 50 minute lectures featuring the lecturer from the CRTVU in Beijing in the studio there

* 25 minute general background programmes

* 15-20 minute news or features.

The didacatic mix is approximately:

20% TV lecture programmes
30% printed materials
20% investigation and experiment in the workplace and laboratory
30% private study including seminars.

4. THE SYSTEM AT WORK

Organizational structure

One of the strengths of the Chinese system is that the levels of administrative strucure of the distance university network mirror the political administrative structure of the country.

There are five levels of political structure in China:

1. The Central Government of China based in the capital, Beijing (*Zhongyang Zhengfu)*

2. The Provincial Government located in the provincial capital (*Sheng Zhengfu)*

3. The City Council located in each major city of the province (*Shi Zhengfu)*

4. The Regional Council, sometimes also located in each major city of the province but with jurisdiction over the non-urban areas *(Di Zhengfu)*

5. County Councils or local administrative units *(Xian Xengfu)*.

In the same way the CRTVU/PRTVUs are administered on five levels as shown in Figure 2.

These levels of administrative structure are:

1. The CRTVU, located in the capital Beijing and linked directly to the State Education Commission.

2. The Provincial TVUs, located in the provincial capitals and other important municipal areas, under the control of the provincial government

3. The Regional Colleges (*Di Shi Dianda (Fen Xiao))* located in important centres under city and regional governments.

4. The Education Centres (*Gong Zuo Zhan (Fen Xiao))* run by district or county education offices or by large companies.

5. The Tutorial Groups (*Jiao Xue Ban)* or television class groups.

There is 1 CRTVU, 43 Provincial (or Metropolitan or Autonomous Region) TVUs, 487 Regional TVU Colleges, 1550 Education Centres at county or company level, and at least 30 000 tutorial groups, depending on the enrolment each year.

The delineation of the functions of the differing levels in the system is clearly given by Hawkridge and McCormick (1983: 162-167) of the Open University of the United Kingdom and by Yuhui of the CRTVU (1988: 219-220). The listing given here is adapted from official documentation of the early 1990s:

1. CRTVU is responsible for:

* producing the curriculum for the TVUs and ensuring that this curriculum includes all the subjects which are authorised for offer by distance education nationally and offering courses in them.

* producing syllabuses, radio and TV programmes for these courses. Writing, editing, publishing and distributing materials for these courses.

* setting end of semester national examinations and ensuring that marking is standardized and drawing up national examiniation timetables.

* training lecturers, technicians and administrative staff

* doing research on university level distance education

* directing the academic administration of the PRTVUs and coordinating academic work when it is shared by more than one PRTVU.

2. The PRTVUs are responsible for:

* producing courses in subjects which are approved as of specific interest to their region

* producing syllabuses, TV and radio programmes, written course materials and supplementary materials for the courses they have produced

* setting end of semester examinations for their own courses and marking them. Timetabling the examinations set by the CRTVU and marking these papers.

* ensuring that lecturers follow set administrative and examination procedures. Enrolling new students, keeping student records and issuing degrees and certificates

* training lecturers and keeping abreast of new teaching methodology and distance education research.. Promoting the interchange of ideas on the running of local TVUs.

* directing the teaching and administration work done in the regional colleges and education centres.

* providing advice, guidance and help to students with academic/personal problems.

3. The Regional Colleges are responsible for:

* all aspects of timetabling. This includes timetables for watching TV programmes, tutorials, examinations, tests, laboratory work and field studies as set out by the CRTVU and the provincial PRTVU

* ensuring that the lecturers follow the set administrative and examination procedures. Ensuring that course syllabuses are adhered to

* setting up education centres and TV tutorial groups and directing their work

* providing advice, guidance and help to students with academic/personal problems

* issuing degrees and certificates

* administering established courses in the subjects which are of specific interest locally.

4. The Education Centres are responsible for:

* recruiting lecturers and tutors

* organizing TV classes and maintaining high teaching standards. Timetabling tutorials, laboratory work and field studies. Organizing the distribution of teaching materials

* providing advice, guidance and help to students with academic/personal problems.

5. The TV tutorials groups are responsible for:

* drawing up class timetables each semester

* organizing the viewing of and listening to course programmes. Arranging tutorials, laboratory work and field studies

* encouraging students to take part in physical education and recreational activities

* maintaining contact with the work units to which their students are attached.

Hawkridge and McCormick (1983) and Yuhui (1988) refer to the Regional Colleges as 'Branch Schools'. They translate *Di Shi Dianda (Fen Xiao)* as 'schools' but this is misleading and might give the impression one was dealing with children and not working adults. Their translation 'branch' is poor as it fails to convey the size and population of the Chinese regions. In the same way *Gong Zuo Zhan (Fen Ziao)* is better translated 'Education Centres' rather than 'Work Stations', the translation chosen by Hawkridge and McCormick and by Yuhui. Station is a strange word in English for what are normally called 'Education Centres' or 'Study Centres'or 'Local Centres' and although many of them are at the students' workplace organized by companies or industries or factories, many are not.

Evolution of the system

1978	The State Council of the Peoples' Republic approved the establishment of the CRTVU and of 28 Provincial, Municipal and Autonomous Region TVUs (*Dianda)*
1979	Nationwide enrolment for students in *Dianda* courses
1981	No enrolments due to inavailablity of TV time
1982	First graduates from the system
1982	The Chinese government decided to approach the World Bank for a loan of US$ 85 000 000 to develop the system
1986	First enrolment of high school matriculants in short-cycle courses
1986	The CRTVU used satellite TV for the first time to transmit its courses, in addition to the CETV microwave network
1987	Introduction of post-graduate continuing education courses
1989	10th anniversary celebrations of the system and international distance education symposium in Beijing
1990	Number of provincial TVUs increased to 40
1991	Satellite and terrestrial transmissions reach 5000 hours of broadcasting per year. Number of universities in the system increased to 44
1993	National Programme for Educational Reform and Development pledges vigourous development of television education to 2000.
1994	Publication of major study of the system by Wei Runfang and Tong Yuanhui of Jinagsu TVU

5. RESEARCH

Introduction

Western and Chinese sources on the *Dianda* CRTVU/PRTVU system are presented here. Many of the universities in the system have a Centre for Research in Distance Education and up-to-date data can be obtained from the Research and Statistics Centre at the Central Radio and Television University at 83 Fuxing Road, Beijing, telephone 008618233861 or fax 008619217892.

Western sources

Peters' *Texte zum Hochschulfernstudium* (1971) has an introduction by the editor which highlights differences between Western and Eastern systems. An English translation is given in the 1994 Routledge book *The industrialization of teaaching and learning: Otto Peters on distance education.* The 1971 book has a chapter on the development of distance education in China in the early 1960s taken from the *Peking Review* of 1963 by Chou Li Fang.

McCormick of the Open University of the United Kingdom published a first article on the system in 1980 and followed this with the chapter on China in the 1982 Croom Helm book *The distance teaching universities.* This is an excellent, well constructed chapter dealing with the origins, students, academic programmes, media, course design, delivery, organizational structure and costs. He is the only one of the Western scholars who reads Chinese.

Four chapters of *The distance teaching universities* by Keegan and Rumble (1982) give an essential framework for interpretation of the Chinese network within the context of open universities worldwide under the headings: introduction to the distance teaching universities; distance teaching at university level; general characteristics; the distance teaching universities - an appraisal.

To this should be added the framework for analysis provided by Keegan in *Foundations of distance education* (1990), especially pages 116-139, 145-146,199-201.

Hawkridge and McCormick of the Open University the Unted Kingdom wrote a major article in 1983 in the *British Journal of Educational Technology* dealing with the origins, needs, political structures and the five different administrative levels. They pay special attention to policy issues, training and television production, contrasting the didactic strategies of the Chinese system with their own.

McCormick produced two further articles on different aspects of the system in 1985 and 1986 and in 1992 received a PhD from the Open University for his thesis 'Distance education in the Peoples' Republic of China' dealing comprehensively with the three systems.

Hawkridge was appointed chairperson of the International Advisory Panel to the World Bank and the State Eduction Commission of the PRC on the World Bank loan to develop the system and in 1988 wrote an article 'Distance eduation and the World Bank' situating the Chinese system within world development programmes. In 1990 his committee produced a report on both the TVUs and the Chinese face-to-face polytechnics. The section on the TVUs is an in-depth analysis of the areas in which the World Bank was involved, trenchant and, at times, critical especially of the supply of Japanese computers which could not effectively print out Chinese.

Also in 1990 Hawkridge published with Chen an article 'Evaluating a World Bank project: the Chinese television universities' in *The International Journal of Education Development* giving his assessment of the system and restating his views on aspects of the system. Hawkridge's most recent contribution 'China's changing policy and practice in television education 1978-1993' was written with Weixing Ma of the Beijing Teachers Univesity and is in press at the time of the drafting of this monograph. This article will deal with policy on the Chinese television universities, the World Bank loan, declining undergraduate enrolments, policy reforms in 1986 and 1987, broadcasting and satellite issues to the year 2000 and beyond.

Chinese sources

In 1984, five years after the reestablishment of university level distance education in China a symposium on university-level distance education was held in Beijing by the Beijing TVU. The proceedings were published as *Beijing TVU higher education research conference* by the Distance Education Research Department of Beijing TVU. Noteworthy are Guan Shixong's 'The establishment, orientation and style of China's TVUs' and Song Ren's 'The importance of theoretical research on TVU higher education'.

1986 saw the publication of an important article by Yu Xu, Professor of Journalism at Fudan University in Shanghai in *Distance Education* under the title 'A look at some aspects of distance education in the People's Republic of China'. Yu sees continuity between the TV universites of the early 1960s and the *Dianda* of today and talks of a suspension for 11 years from 1966. He is particularly strong on the social values of distance education in China and gives a detailed case study of the Chuansha county branch of Shanghai TVU and underlines the importance of the over 300 departments of correspondence education in Chinese universities. His perspective is that of a conventional university professor from Shanghai.

From within the CRTVU system in 1988 comes the Unesco case study of Asian distance universities prepared by Zhao Yuhui, the Dean of Academic Affairs, and Mu Xiaoming, Deputy Head of the President's office, at the CRTVU. This is a comprehensive study situating the distance system in the Chinese educational and economic context and dealing in some depth with system structure, course development, costs, outcomes and prospects for the future. Some of the material was used by Zhao for a 1988 *Prospects* article, an edited version of which appears in the 1993 Routledge collection *Distance education: new perspectives*, and also for an ICDE conference paper.

Also from the system, but from the Beijing, Tianjin and Shanghai TVUs, comes a scholarly collection of papers *Dianshi daxue lunwenji* (TVU Collected Papers) edited by Guan Shixong. Most of these are on academic topics not related to distance education like Song Ren's 'Liang Qi Chao's political and legal psychology' (1988:1-6).

The 10th anniversary celebrations of the system were held in October 1989. An official brochure *China Radio and TV University* in Chinese and English gives information of the TVUs development, administration, curriculum, types of courses, students, course design, tutors and links with other organsisations. Many of the TVUs produced their own brochures, many of them in full colour and well illustrated, to show their regional role and characteristics.

An international symposium was held in Beijing from 26-28 October 1989 with about 100 Chinese delegates including the presidents of the 44 universities and their directors of the distance education research centres. The aims of the symposium were given as:

* to summarise the ideas developed over the previous ten years

* to promote the exchange of ideas with colleagues abroad

* to increase the international influence of the CTVUs

* to draw on the experience of other countries teaching and management of distance higher education

* to promote the reform and development of the CTVU.

The symposium proceedings were published under the editorship of Xie Xinguan, then vice president of the CRTVU, in both Chinese and English. There are 13 chapters by Chinese delegates from leading authorities from the TVUs nationwide and the Chinese volume has 6 chapters and the English version 5 chapters by the international delegates. Summaries of the speeches were published in Chinese in a special edition of the journal of the CRTVU *Zhongguo Dianda Jiaoyu (China TVU Education).*

In the 1990s Zhong Wenhui published 'The development of Chinese Radio and TV universities in adult higher education (1990) and 'Chinese distance education as it enters the 1990s' from OISE in Toronto. Yu Hexun of the Shanghai Higher Education Bureau presented 'Current situation and trends in higher education at a distance in China' for the 1992 ICDE World conference, setting out the three systems (correspondence, TVU and self-study) and policy issues between them. You Qing Quan, also in 1992, wrote a paper on 'Present features and developing tendencies of distance education in China' which details with many systems especially for agricultural education.

By far the most important study of the TVU system yet published is Wei Runfang and Tong Yuanhui's *Radio and TV universities: the mainstream of China's adult and distance higher education* (1994). This is a highly professional 187 page analysis written in excellent English. The book gives an up to date account of all aspects of the system from two distance education professionals of Jiangsu TVU. The book is particularly good on all details of government

policy and developments in the system, especially developments since 1992. It does not link the system to events previous to the Cultural Revolution and emphasises that it is no longer valid to deal only with the system as a whole but shows that each of the 44 universities has now an identity of its own and growing autonomy and responsibilities.

The authors give the following analysis of the statistics of the fulltime undergraduate degree students: numbers rose rapidly from 97 746 in the first year 1979-80, with no new enrolments in 1981, to a peak of 673 634 in 1985 when, like the Fernuniversität, the requirement of matriculation for enrolment was insisted upon to increase the standard of graduates. Numbers as a result fell to 334 800 in 1991-1992 when they stabilised, with 335 000 in 1992-1993 and they forecast an increase in 1993-1994.

This volume makes a major contribution to distance education research and will be of value to all who are interested in the scientific study of very large education systems. It has a listing of 120 references. As an example of the individuality of their own university and the skill of the authors the illustration in Figure 5 of the instructional system at Jiangsu is a good indicator (1994:167):

The 199 page *Education statistics yearbook of radio and TV university in China 1992-1993* gives enormous detail on the entire system, on each provincial system, on each education centre within the provincial systems and much else. The main headings are:

General statistics for each university (40 pages)
Number of students by field of study by region
Number of students by year of study by field of study
Number of students by department by field of study
Supplementary information on students and staff
Academic rank of staff
Breakdown of staff by age
Breakdown of staff by academic qualifications
Changes in undergraduate enrolment
Data on plant and equipment
Condition of university buildings
Number of graduates, enrolments, staff in TVUs compared with conventional universites in China

At the time of writing the volume for the 1993-1994 academic year was being printed.

6. EVALUATION

Unesco statistics

Working from Unesco statistics in the mid-1980s, Dieuzeide (1985:31) showed that one third of all distance education students worldwide in the 1980s were from the USSR or China. This dimension went largely unreported in the literature, even though Peters had pointed out as early as 1971 the central role of distance education in socialist educational provision (1971: 11-21).

This is not a cause for surprise as the lack of analysis or reporting of socialist face to face education in schools, colleges and universities is equally marked. In the case of distance education, however, the loss of so much data for the 1980s does tend to distort some research findings, especially in areas, like drop-out, where the data from the former socialist countries differed markedly from the Western data.

There is a slight note of criticism in Hawkridge and McCormick's 'The extraordinary growth of China's television universities since they were founded in 1979 has passed more or less unnoticed in the Western educational press' (1983:160). They go on the point out that 'China with almost 250 million students, has the largest educational system in the world' (1983:161).

Typology

A framework is needed for the analysis of the world's largest distance university system as a component of the world's largest education system. A suitable framework is provided by Keegan's typology of distance systems, first published by the Zentrales Institut für Fernstudienforschung in 1982 and developed in the author's *Foundations of distance education* (1990). This typology is relevant to both Western and Eastern systems of distance education (see Figure 6).

The Chinese system and its constituent universities fall clearly within Group 2 (open or distance teaching universities) but they have strong affinities with the institutions of Group 4 (the consultation system).

Both the Chinese system as a whole and each individual university share the characteristics of the open universities as a group. They are institutions for distance education, focus uniquely on the distance student and his or her problems, they teach at higher university level, make extensive use of media in their didactic strategies and have a comprehensive didactic structure for the linking of media based learning to student achievement. Keegan and Rumble (1982: 9-14;15-31;204-224;225-249) provide four chapters of analysis for this grouping of universities in the book *The distance teaching universities* and much of what is written there is of value for analysis of the Chinese system today.

The similarities betwen the Group 4 consultation model of the former socialist countries of Central and Eastern Europe with the Chinese *Dianda* system are also of relevance but have not yet been pointed out by either Chinese or Western sources. Among the most striking of these are:

* the decisive role of university-level distance education in national economic and manpower planning

* the claim that the blending of theoretical and on-the-job learning that is characteristic of distance education is inachievable in conventional face-to-face universities

* the granting of paid study leave by law to students enrolled in distance degrees (48 days per year, for instance, in the former Eastern Germany; three years in China for certain courses)

* the organizational and adminsistrative structure of a central materials development agency (at Dresden, for instance, in the former Eastern Germany) and a national network of universities which offer courses but which do not develop the materials, or have a reduced role in course development

* the relative absence of drop-out

* the insistence on regular, programmed face-to-face consultations as an integral part of a distance system

* the control of student enrolment by the company manager; the writing of the thesis on an aspect of company development; the role of the distance degree in company or factory staff planning and staff development; the granting of enhanced status or promotion on the completion of the distance degree.

Terminology

In the book *The distance teaching universities* Keegan and Rumble argued that 'distance teaching university' was the correct term for a university founded for distance education rather than the term 'open university'.

The influence of the Open University of the United Kingdom on the use of the term 'open university' in English has, however, proved decisive and it is significant that the most recent foundations, Open University of Tanzania and Bangladesh Open University have chosen to use that nomenclature.

In this monograph, therefore, the terms 'distance teaching university' or 'TV university' are used interchangeably with 'open university' or *'Fernuniversität'* or *'Universidad de educación a distancia'*. It would be pedantic to claim that some are more 'distance' than others because some require compulsory face to face presences and some do not; that some are more 'open'

than others because some require *Abitur* for entry to degree courses (Fernuniversität) and some do not; and some are more 'higher education' that others as nearly all (except the Fernuniversität) offer certification, in addition to degrees, at less than degree level in the long standing focus of distance teaching on job-related qualification.

Applicability

It would be imprudent to suggest that the educational structures of the Peoples Republic of China could or should be copied elsewhere.

Nevertheless, the model of a central materials development agency with a permanent staff of highly qualified academics to coordinate the development of course materials and engage in research in distance education, with a permanent staff of highly qualified print, audio, television and computer production staff remains an attractive one. There are economies of both scope and scale in this model. It is a model that may be of particular relevance to countries with federal systems of education which frequently have difficulties in finding models for nationwide provision. It is a model that also has relevance for developing countries where expertise either national or intenational can be merged with a team of distance education professionals to provide quality materials for local distribution.

As an example of a successful very large system the Chinese *Dianda* will be of interest to educational planners and government ministries worldwide as they try to cope with the education, training and retraining needs for the 21st century, especially in its ability to begin to bridge the urban/country divide which is so typical of China.

7. THE INDIVIDUAL UNIVERSITIES

In almost all the published Western literature on the *Dianda* system the focus is on the network as a whole. There is little or no analysis of the 44 universities as individual structures with their own focus, their own regional responsibility, their own staff and students. In what follows a first attempt is made to individualsie the different open universites and give a first set of references to each.

The publication in late 1993 of *Education statistics yearbook of Radio and TV University in China 1992-1993* makes it possible to establish statistics for each of the 44 universities in the system.

This 199 page volume gives extensive detail on the system as a whole and each university in particular. Figures 3 and 4 give an indication of the detailed statistics collected.

1. CENTRAL RADIO AND TV UNIVERSITY

1.	**Name of university:**	CRTVU
2.	**Location:**	Beijing
3.	**Type:**	Hub of network
4.	**Characteristics:**	Central production and administrative facility for the whole network
5.	**Full time students 1992-1993:**	0
7.	**Full time staff 1992-1993:**	598
8.	**Part time staff 1992-1993:**	213
9.	**Plant occupied in m^2:**	45 269
10.	**Library collection (volumes)**	80 000

2. BEIJING OPEN UNIVERSITY

1.	**Name of university:**	Beijing TVU
2.	**Location:**	Beijing
3.	**Type:**	Municipal
4.	**Characteristics:**	National capital and financial, cultural, educational and technical centre
5.	**Full time students 1992-1993:**	5024
6.	**Part time students 1992-1993:**	9633
7.	**Full time staff 1992-1993:**	605
8.	**Part time staff 1992-1993:**	338
9.	**Plant occupied in m^2:**	69518
10.	**Library collection (volumes)**	120415

3. TIANJIN OPEN UNIVERSITY

1.	**Name of university:**		Tianjin TVU
2.	**Location:**		Northeastern China
3.	**Type:**		Municipal
4.	**Characteristics:**		Major industrial centre and seaport with important import/export trade
5.	**Full time students 1992-1993:**		7921
6.	**Part time students 1992-1993:**		13641
7.	**Full time staff 1992-1993:**	1285	
8.	**Part time staff 1992-1993:**	674	
9.	**Plant occupied in m^2:**		145476
10.	**Library collection (volumes)**		386178

4. HEBEI OPEN UNIVERSITY

1.	**Name of university:**	Hebei TVU
2.	**Location:**	Northern China
3.	**Type:**	Provincial
4.	**Characteristics:**	Closest province to the capital, Beijing, with easy transport access in a mixed agriculture and industrial region
5.	**Full time students 1992-1993:**	17442
6.	**Part time students 1992-1993:**	7349
7.	**Full time staff 1992-1993:**	1807
8.	**Part time staff 1992-1993:**	161
9.	**Plant occupied in m^2:**	1085797
10.	**Library collection (volumes)**	625371

5. SHANXI OPEN UNIVERSITY

1.	**Name of university:**	Shanxi TVU
2.	**Location:**	North Western China
3.	**Type:**	Provincial
4.	**Characteristics:**	Important agricultural and mining region
5.	**Full time students 1992-1993:**	4613
6.	**Part time students 1992-1993:**	8826
7.	**Full time staff 1992-1993:**	560
8.	**Part time staff 1992-1993:**	142
9.	**Plant occupied in m^2:**	34880
10.	**Library collection (volumes)**	118350

6. INNER MONGOLIAN OPEN UNIVERSITY

1.	**Name of university:**	Inner Mongolian TVU
2.	**Location:**	North China
3.	**Type:**	Autonomous Region
4.	**Characteristics:**	The Northernmost region bordering Russia with farming and agricultural interests
5.	**Full time students 1992-1993:**	4288
6.	**Part time students 1992-1993:**	1007
7.	**Full time staff 1992-1993:**	960
8.	**Part time staff 1992-1993:**	31
9.	**Plant occupied in m^2:**	271528
10.	**Library collection (volumes)**	229139

7. LIAONING OPEN UNIVERSITY

1.	**Name of university:**	Liaoning TVU
2.	**Location:**	North Eastern China
3.	**Type:**	Provincial
4.	**Characteristics:**	Heavily developed industrial area, one of the largest provinces, near to Korea
5.	**Full time students 1992-1993:**	12042
6.	**Part time students 1992-1993:**	34923
7.	**Full time staff 1992-1993:**	1392
8.	**Part time staff 1992-1993:**	87
9.	**Plant occupied in m^2:**	136261
10.	**Library collection (volumes)**	328276

8. SHENYANG OPEN UNIVERSITY

1.	**Name of university:**	Shenyang TVU
2.	**Location:**	Capital of Liaoning Province
3.	**Type:**	Municipal
4.	**Characteristics:**	Industrial centre in North Eastern China
5.	**Full time students 1992-1993:**	5146
6.	**Part time students 1992-1993:**	5131
7.	**Full time staff 1992-1993:**	349
8.	**Part time staff 1992-1993:**	0
9.	**Plant occupied in m^2:**	19210
10.	**Library collection (volumes)**	251000

9. DALIAN OPEN UNIVERSITY

1.	**Name of university:**	Dalian TVU
2.	**Location:**	North Eastern China
3.	**Type:**	Municipal
4.	**Characteristics:**	Harbour city with important i mport/export infrastructure
5.	**Full time students 1992-1993:**	3984
6.	**Part time students 1992-1993:**	22171
7.	**Full time staff 1992-1993:**	187
8.	**Part time staff 1992-1993:**	0
9.	**Plant occupied in m^2:**	4000
10.	**Library collection (volumes)**	50 000

10. JILIN OPEN UNIVERSITY

1.	**Name of university:**	Jilin TVU
2.	**Location:**	North Eastern China
3.	**Type:**	Provincial
4.	**Characteristics:**	Agricultural region
5.	**Full time students 1992-1993:**	5835
6.	**Part time students 1992-1993:**	35269
7.	**Full time staff 1992-1993:**	780
8.	**Part time staff 1992-1993:**	97
9.	**Plant occupied in m^2:**	45566
10.	**Library collection (volumes)**	160166

11. CHANGCHUN OPEN UNIVERSITY

1.	**Name of university:**	Changchun TVU
2.	**Location:**	Provincial capital of Jilin
3.	**Type:**	Municipal
4.	**Characteristics:**	Provincial capital with heavy vehicle manufacturing industries: lorries, tractors, bulldozers
5.	**Full time students 1992-1993:**	1615
6.	**Part time students 1992-1993:**	4469
7.	**Full time staff 1992-1993:**	135
8.	**Part time staff 1992-1993:**	64
9.	**Plant occupied in m^2:**	23896
10.	**Library collection (volumes)**	172535

12. HEILONGJIANG OPEN UNIVERSITY

1.	**Name of university:**		Heilongjiang TVU
2.	**Location:**		Extreme Northeast of China
3.	**Type:**		Province
4.	**Characteristics:**		Cold northern province with Russian influence dealing in furs
5.	**Full time students 1992-1993:**		11985
6.	**Part time students 1992-1993:**		18634
7.	**Full time staff 1992-1993:**	2302	
8.	**Part time staff 1992-1993:**	387	
9.	**Plant occupied in m^2:**		2943099
10.	**Library collection (volumes)**		598990

13. HARBIN OPEN UNIVERSITY

1.	**Name of university:**	Harbin TVU
2.	**Location:**	Northeastern China
3.	**Type:**	Municipal
4.	**Characteristics:**	Provincial capital of Heilongjiang province and important business centre
5.	**Full time students 1992-1993:**	3336
6.	**Part time students 1992-1993:**	3005
7.	**Full time staff 1992-1993:**	399
8.	**Part time staff 1992-1993:**	175
9.	**Plant occupied in m^2:**	82670
10.	**Library collection (volumes)**	156300

14. SHANGHAI OPEN UNIVERSITY

1.	**Name of university:**	Shanghai TVU
2.	**Location:**	South East coast
3.	**Type:**	Municipal
4.	**Characteristics:**	Largest city in China with important banking, import/export, iron and steel, industry and trade infrastructure
5.	**Full time students 1992-1993:**	2570
6.	**Part time students 1992-1993:**	11398
7.	**Full time staff 1992-1993:**	1228
8.	**Part time staff 1992-1993:**	0
9.	**Plant occupied in m^2:**	127667
10.	**Library collection (volumes)**	351131

15. JINAGSU OPEN UNIVERSITY

1.	**Name of university:**	Jiangsu TVU
2.	**Location:**	Southern China
3.	**Type:**	Provincial
4.	**Characteristics:**	Large province with agricultural trade
5.	**Full time students 1992-1993:**	14181
6.	**Part time students 1992-1993:**	20911
7.	**Full time staff 1992-1993:**	2965
8.	**Part time staff 1992-1993:**	64
9.	**Plant occupied in m^2:**	436567
10.	**Library collection (volumes)**	775998

16. NANJING OPEN UNIVERSITY

1.	**Name of university:**	Nanjing TVU
2.	**Location:**	Southern China
3.	**Type:**	Municipal
4.	**Characteristics:**	Capital of Jiangsu province in important rice growing area with bridge over Yangtze
5.	**Full time students 1992-1993:**	2340
6.	**Part time students 1992-1993:**	2154
7.	**Full time staff 1992-1993:**	625
8.	**Part time staff 1992-1993:**	269
9.	**Plant occupied in m^2:**	74828
10.	**Library collection (volumes)**	142049

17. ZHEJIANG OPEN UNIVERSITY

1.	**Name of university:**	Zhejiang TVU
2.	**Location:**	Southern China
3.	**Type:**	Provincial
4.	**Characteristics:**	Large, agricultural, rice-growing province
5.	**Full time students 1992-1993:**	12085
6.	**Part time students 1992-1993:**	23267
7.	**Full time staff 1992-1993:**	1172
8.	**Part time staff 1992-1993:**	365
9.	**Plant occupied in m^2:**	141867
10.	**Library collection (volumes)**	392061

18. NINGBO OPEN UNIVERSITY

1.	**Name of university:**	Ningbo TVU
2.	**Location:**	Southern China
3.	**Type:**	Municipal
4.	**Characteristics:**	Large industrial city with oil and chemiclas industries in Zhejiang province
5.	**Full time students 1992-1993:**	2348
6.	**Part time students 1992-1993:**	8550
7.	**Full time staff 1992-1993:**	167
8.	**Part time staff 1992-1993:**	90
9.	**Plant occupied in m^2:**	13648
10.	**Library collection (volumes)**	88393

19. ANHUI OPEN UNIVERSITY

1.	**Name of university:**	Anhui TVU
2.	**Location:**	Southern China
3.	**Type:**	Provincial
4.	**Characteristics:**	Agricultural province with industrial installations
5.	**Full time students 1992-1993:**	8569
6.	**Part time students 1992-1993:**	4950
7.	**Full time staff 1992-1993:**	656
8.	**Part time staff 1992-1993:**	504
9.	**Plant occupied in m^2:**	70593
10.	**Library collection (volumes)**	218637

20. FUJIAN OPEN UNIVERSITY

1.	**Name of university:**		Fujian TVU
2.	**Location:**		Most southerly province
3.	**Type:**		Provincial
4.	**Characteristics:**		Fast-growing, industrial and fishing centre
5.	**Full time students 1992-1993:**		7833
6.	**Part time students 1992-1993:**		9471
7.	**Full time staff 1992-1993:**	678	
8.	**Part time staff 1992-1993:**	377	
9.	**Plant occupied in m^2:**		151705
10.	**Library collection (volumes)**		201125

21. XIAMEN OPEN UNIVERSITY

1.	**Name of university:**	Xiamen TVU
2.	**Location:**	Southern China
3.	**Type:**	Municipal
4.	**Characteristics:**	Capital of Fujian province with rapid property development
5.	**Full time students 1992-1993:**	739
6.	**Part time students 1992-1993:**	1634
7.	**Full time staff 1992-1993:**	62
8.	**Part time staff 1992-1993:**	28
9.	**Plant occupied in m^2:**	2850
10.	**Library collection (volumes)**	16000

22. JIANGXI OPEN UNIVERSITY

1.	**Name of university:**		Jiangxi TVU
2.	**Location:**		South West China
3.	**Type:**		Provincial
4.	**Characteristics:**		Underdeveloped, agricultural province
5.	**Full time students 1992-1993:**		10107
6.	**Part time students 1992-1993:**		2981
7.	**Full time staff 1992-1993:**	801	
8.	**Part time staff 1992-1993:**	848	
9.	**Plant occupied in m^2:**		116546
10.	**Library collection (volumes)**		266500

23. SHANDONG OPEN UNIVERSITY

1.	**Name of university:**	Shandong TVU
2.	**Location:**	Eastern China
3.	**Type:**	Provincial
4.	**Characteristics:**	Rich province with industries and fisheries
5.	**Full time students 1992-1993:**	20416
6.	**Part time students 1992-1993:**	119621
7.	**Full time staff 1992-1993:**	3734
8.	**Part time staff 1992-1993:**	757
9.	**Plant occupied in m^2:**	1096763
10.	**Library collection (volumes)**	746915

24. QINGDAO OPEN UNIVERSITY

1.	**Name of university:**	Qingdao TVU
2.	**Location:**	East coast of China
3.	**Type:**	Municipal
4.	**Characteristics:**	Industrial centre of Shandong province, with coastal trade and beer production
5.	**Full time students 1992-1993:**	4052
6.	**Part time students 1992-1993:**	14552
7.	**Full time staff 1992-1993:**	382
8.	**Part time staff 1992-1993:**	13
9.	**Plant occupied in m^2:**	116627
10.	**Library collection (volumes)**	146535

25. HENAN OPEN UNIVERSITY

1.	**Name of university:**	Henan TVU
2.	**Location:**	Central China
3.	**Type:**	Provincial
4.	**Characteristics:**	Rich, agricultural province
5.	**Full time students 1992-1993:**	17143
6.	**Part time students 1992-1993:**	24530
7.	**Full time staff 1992-1993:**	2188
8.	**Part time staff 1992-1993:**	918
9.	**Plant occupied in m^2:**	339952
10.	**Library collection (volumes)**	846239

26. HUBEI OPEN UNIVERSITY

1.	**Name of university:**	Hubei TVU
2.	**Location:**	Central China
3.	**Type:**	Province
4.	**Characteristics:**	Agricultural region
5.	**Full time students 1992-1993:**	15569
6.	**Part time students 1992-1993:**	6728
7.	**Full time staff 1992-1993:**	2239
8.	**Part time staff 1992-1993:**	391
9.	**Plant occupied in m^2:**	740513
10.	**Library collection (volumes)**	713889

27. WUHAN OPEN UNIVERSITY

1.	**Name of university:**	Wuhan TVU
2.	**Location:**	South Central China
3.	**Type:**	Municipal
4.	**Characteristics:**	Rich capital of Hubei province in hot and humid region
5.	**Full time students 1992-1993:**	2136
6.	**Part time students 1992-1993:**	561
7.	**Full time staff 1992-1993:** 910	
8.	**Part time staff 1992-1993:** 41	
9.	**Plant occupied in m^2:**	102811
10.	**Library collection (volumes)**	259526

28. HUNAN OPEN UNIVERITY

1.	**Name of university:**	Hunan TVU
2.	**Location:**	South West China
3.	**Type:**	Provincial
4.	**Characteristics:**	Agricultural province
5.	**Full time students 1992-1993:**	20694
6.	**Part time students 1992-1993:**	4550
7.	**Full time staff 1992-1993:**	993
8.	**Part time staff 1992-1993:**	827
9.	**Plant occupied in m^2:**	285829
10.	**Library collection (volumes)**	260922

29. GUANGDONG OPEN UNIVERSITY

1.	**Name of university:**	Guangdong TVU
2.	**Location:**	Southern China
3.	**Type:**	Provincial
4.	**Characteristics:**	One of the richest provinces with important trade, light industry, heavy industry and rice growing areas
5.	**Full time students 1992-1993:**	17861
6.	**Part time students 1992-1993:**	16154
7.	**Full time staff 1992-1993:**	1950
8.	**Part time staff 1992-1993:**	931
9.	**Plant occupied in m^2:**	447923
10.	**Library collection (volumes)**	596766

30. GUANGZHOU OPEN UNIVERSITY

1.	**Name of university:**	Guangzhou TVU
2.	**Location:**	Southern China
3.	**Type:**	Municipal
4.	**Characteristics:**	Provincial capital of Guangdong province, rich and rapidly developing
5.	**Full time students 1992-1993:**	2341
6.	**Part time students 1992-1993:**	4221
7.	**Full time staff 1992-1993:**	223
8.	**Part time staff 1992-1993:**	247
9.	**Plant occupied in m^2:**	10020
10.	**Library collection (volumes)**	76980

31. SHENZHEN OPEN UNIVERSITY

1.	**Name of university:**	Shenzhen TVU
2.	**Location:**	Southern China
3.	**Type:**	Special economic zone
4.	**Characteristics:**	Rapidly developing economic zone with industrial, tourism, hotel and trade infrastructures
5.	**Full time students 1992-1993:**	22111
6.	**Part time students 1992-1993:**	1278
7.	**Full time staff 1992-1993:**	134
8.	**Part time staff 1992-1993:**	0
9.	**Plant occupied in m^2:**	5000
10.	**Library collection (volumes)**	25700

32. GUANGXI OPEN UNIVERSITY

1.	**Name of university:**	Guangxi TVU
2.	**Location:**	Southern China
3.	**Type:**	Provincial
4.	**Characteristics:**	Agricultural and tourism industries
5.	**Full time students 1992-1993:**	10941
6.	**Part time students 1992-1993:**	1506
7.	**Full time staff 1992-1993:**	742
8.	**Part time staff 1992-1993:**	347
9.	**Plant occupied in m^2:**	104714
10.	**Library collection (volumes)**	382069

33. HAINAN OPEN UNIVERSITY

1.	**Name of university:**	Hainan TVU
2.	**Location:**	Southern China, island
3.	**Type:**	Special economic zone
4.	**Characteristics:**	Rapidly developing island economy with import/export trade, fisheries, computing and property development
5.	**Full time students 1992-1993:**	412
6.	**Part time students 1992-1993:**	854
7.	**Full time staff 1992-1993:**	96
8.	**Part time staff 1992-1993:**	0
9.	**Plant occupied in m^2:**	62737
10.	**Library collection (volumes)**	19449

34. SICHUAN OPEN UNIVERSITY

1.	**Name of university:**	Sichuan TVU
2.	**Location:**	South Central China
3.	**Type:**	Provincial
4.	**Characteristics:**	Mountainous and agricultural province with large population
5.	**Full time students 1992-1993:**	24563
6.	**Part time students 1992-1993:**	9613
7.	**Full time staff 1992-1993:**	1083
8.	**Part time staff 1992-1993:**	1450
9.	**Plant occupied in m^2:**	264622
10.	**Library collection (volumes)**	263949

35. CHENGDU OPEN UNIVERSITY

1.	**Name of university:**	Chengdu TVU
2.	**Location:**	South Central China
3.	**Type:**	Municipal
4.	**Characteristics:**	Provincial capital of Sichuan; industrial centre with large iron and steel industry
5.	**Full time students 1992-1993:**	5608
6.	**Part time students 1992-1993:**	17180
7.	**Full time staff 1992-1993:**	82
8.	**Part time staff 1992-1993:**	0
9.	**Plant occupied in m^2:**	7877
10.	**Library collection (volumes)**	32000

36. CHONGQING OPEN UNIVERSITY

1.	**Name of university:**	Chongqing TVU
2.	**Location:**	Sichuan province
3.	**Type:**	Municipal
4.	**Characteristics:**	Large industrial city in Sichuan province, hilly, foggy, shipping industry
5.	**Full time students 1992-1993:**	7648
6.	**Part time students 1992-1993:**	2835
7.	**Full time staff 1992-1993:**	136
8.	**Part time staff 1992-1993:**	64
9.	**Plant occupied in m^2:**	22934
10.	**Library collection (volumes)**	20437

37. GUIZHOU OPEN UNIVERSITY

1.	**Name of university:**	Guizhou TVU
2.	**Location:**	Western China
3.	**Type:**	Provincial
4.	**Characteristics:**	Underdeveloped area with railways, mechanical engineering, iron and steel industries
5.	**Full time students 1992-1993:**	5618
6.	**Part time students 1992-1993**	3856
7.	**Full time staff 1992-1993:**	948
8.	**Part time staff 1992-1993:**	320
9.	**Plant occupied in m^2:**	90784
10.	**Library collection (volumes)**	405749

38. YUNNAN OPEN UNIVERSITY

1.	**Name of university:**	Yunnan TVU
2.	**Location:**	Southern China
3.	**Type:**	Provincial
4.	**Characteristics:**	Agriculture and tourism
5.	**Full time students 1992-1993:**	5484
6.	**Part time students 1992-1993:**	31908
7.	**Full time staff 1992-1993:**	570
8.	**Part time staff 1992-1993:**	25
9.	**Plant occupied in m^2:**	358120
10.	**Library collection (volumes)**	126476

39. SHAANXI OPEN UNIVERSITY

1.	**Name of university:**		Shaanxi TVU
2.	**Location:**		Western China
3.	**Type:**		Provincial
4.	**Characteristics:**		Underdeveloped dry semi-desert area with engineering and industrial projects
5.	**Full time students 1992-1993:**		8639
6.	**Part time students 1992-1993:**		1542
7.	**Full time staff 1992-1993:**	1622	
8.	**Part time staff 1992-1993:**	656	
9.	**Plant occupied in m^2:**		380852
10.	**Library collection (volumes)**		609206

40. XIAN OPEN UNIVERSITY

1.	**Name of university:**	Xian TVU
2.	**Location:**	Central Western China
3.	**Type:**	Municipal
4.	**Characteristics:**	Capital of Shaanxi province in area with industrial and tourist developments
5.	**Full time students 1992-1993:**	2160
6.	**Part time students 1992-1993:**	3197
7.	**Full time staff 1992-1993:**	421
8.	**Part time staff 1992-1993:**	359
9.	**Plant occupied in m^2:**	20627
10.	**Library collection (volumes)**	609206

41. GANSU OPEN UNIVERSITY

1.	**Name of university:**	Gansu TVU
2.	**Location:**	Western China
3.	**Type:**	Provincial
4.	**Characteristics:**	Farming area
5.	**Full time students 1992-1993:**	4319
6.	**Part time students 1992-1993:**	4362
7.	**Full time staff 1992-1993:**	595
8.	**Part time staff 1992-1993:**	67
9.	**Plant occupied in m^2:**	123901
10.	**Library collection (volumes)**	159048

42. QINGHAI OPEN UNIVERSITY

1.	**Name of university:**	Qinghai TVU
2.	**Location:**	Western China
3.	**Type:**	Provincial
4.	**Characteristics:**	Semidesert mountainous region
5.	**Full time students 1992-1993:**	488
6.	**Part time students 1992-1993:**	125
7.	**Full time staff 1992-1993:**	86
8.	**Part time staff 1992-1993:**	36
9.	**Plant occupied in m^2:**	11334
10.	**Library collection (volumes)**	13639

43. NINGXIA OPEN UNIVERSITY

1.	**Name of university:**	Ningxia TVU
2.	**Location:**	Western China
3.	**Type:**	Municipal
4.	**Characteristics:**	Capital of Qinghai province with electricity, aluminum and light industrial installations
5.	**Full time students 1992-1993:**	1731
6.	**Part time students 1992-1993:**	3920
7.	**Full time staff 1992-1993:**	293
8.	**Part time staff 1992-1993:**	55
9.	**Plant occupied in m^2:**	66147
10.	**Library collection (volumes)**	104939

44. XINJIANG OPEN UNIVERSITY

1.	**Name of university:**	Xinjiang TVU
2.	**Location:**	North Western China
3.	**Type:**	Autonomous Region
4.	**Characteristics:**	Mountainous, semi-desert farming region
5.	**Full time students 1992-1993:**	6471
6.	**Part time students 1992-1993:**	0
7.	**Full time staff 1992-1993:**	1122
8.	**Part time staff 1992-1993:**	124
9.	**Plant occupied in m^2:**	326394
10.	**Library collection (volumes)**	334141

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Appendix to Desmond Keegan

Very Large Distance Education Systems : The Case of China

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Zentrales Institut für Fernstudienforschung
Hagen, September 1994

Figure 1 China: provinces, municipalities and autonomous regions

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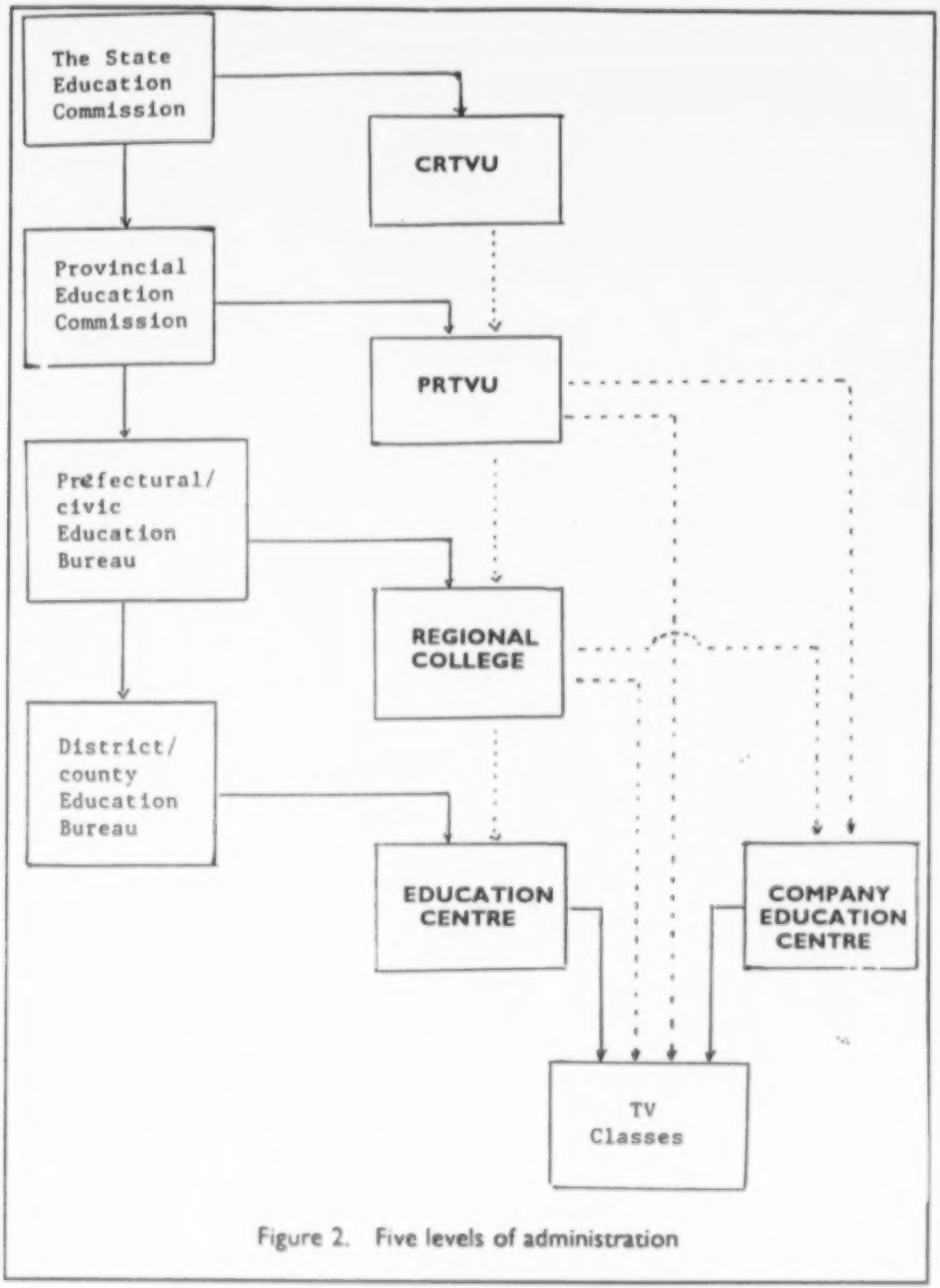

Figure 2. Five levels of administration

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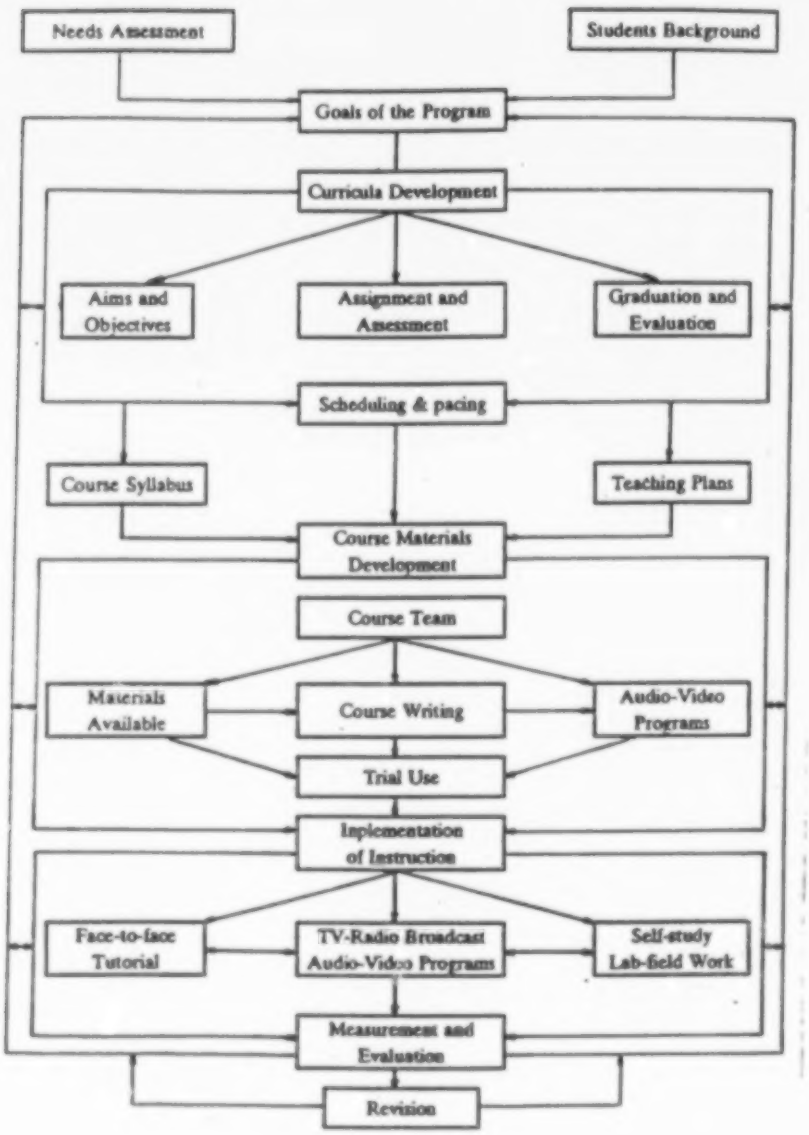

Figure 5. Instructional systems approach of Jinagsu TVU
by Wei R and Tong Y (1994)

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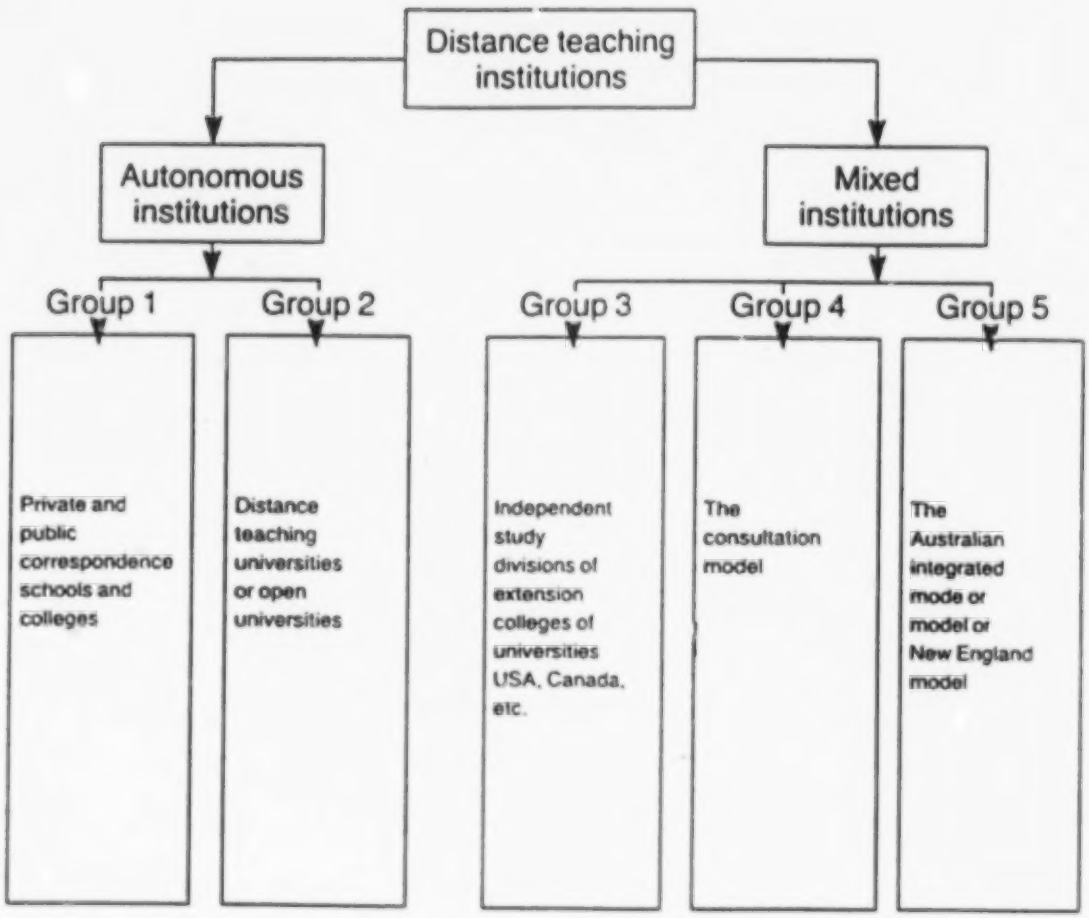
Distance teaching institutions
Autonomous institutions
Mixed institutions
Group 1
Group 2
Group 3
Group 4
Group 5
Private and public correspondence schools and colleges
Distance teaching universities or open universities
Independent study divisions of extension colleges of universities USA, Canada, etc.
The consultation model
The Australian integrated mode or model or New England model

Figure 6. A typology of distance teaching systems by Keegan (1990)

十二、广播电视大学固定资产情况及其它
Supplementary Data on Radio & TV University

	固定资产总值: (万元) Fixed Assets (In 10 000 RMB Yuan)				
	总计 Total	校舍资产价 School building	教学仪器设备资产价 Teaching Equipment and Instruments		
			计 Subtotal	其中 Of Which	
				电教设备 Equipment for Audio-Visual Education	实验设备 Equipment for Experiment
总计 Total	178022.49	118901.06	42463.88	27891.00	12337.53
中央电大 CRTVU	5674.40	812.70	4060.70	2856.00	404.00
北京 Beijing	6095.60	4295.52	1268.90	1000.90	268.00
天津 Tianjin	4514.93	3058.50	849.88	478.74	371.14
河北 Hebei	8996.79	6030.07	2101.31	880.96	1162.63
山西 Shanxi	1983.82	1283.75	428.55	293.08	82.97
内蒙古 Inner Mongolia	2831.33	1659.57	829.52	660.32	70.10
辽宁 Liaoning	5914.51	3625.59	1472.19	1070.27	175.92
沈阳 Shenyang	1101.62	287.23	630.13	269.76	176.11
大连 Dalian	1440.32	1000.00	440.32	400.00	24.22
吉林 Jilin	3796.86	3114.10	569.60	485.90	83.70
长春 Changchun	481.24	177.65	235.96	145.59	90.37
黑龙江 Heilongjiang	10526.67	7388.31	2098.99	1630.39	395.93
哈尔滨 Harbin	2237.14	1704.95	359.47	286.74	71.73
上海 Shanghai	4212.88	2550.03	1290.07	675.18	541.46
江苏 Jiangsu	12509.65	9226.35	2638.22	1567.32	1027.26
南京 Nanjing	2158.00	1572.00	552.00	355.00	197.00
浙江 Zhejiang	3977.82	2066.54	1570.84	1054.04	446.59
宁波 Ningbo	826.94	468.46	271.59	124.56	147.03
安徽 Anhui	2745.69	1918.00	575.85	456.56	91.52
福建 Fujian	3363.91	2372.74	860.04	729.82	127.52
厦门 Xiamen	365.00	206.20	112.30	97.80	14.50
江西 Jiangxi	3396.42	2594.19	660.39	559.31	101.08

Figure 3. Statistics on Radio and TV Universities

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图书音像资料情况 Library Collections and Audio-Visual Material				学校占地面积 (m^2) Total Occuping Space
其它 Others	图书资料 (册) Library Collections (In a Volume)	录音带 (盒) Cassete Tape (in a piece)	录像带 (盘) Video Tape (in a piece)	
16657.55	**11995316**	**2159209**	**1795675**	**11029922**
801.00	80000	1500	68	45269
531.18	120415	23754	18194	69518
606.55	386178	25111	14966	145476
865.41	625371	83048	50703	1085797
171.52	118350	29323	11246	34880
342.24	229139	74971	29542	271528
816.73	328276	45396	54328	136261
184.26	251000	5500	10592	19210
	50000	9000	8000	4000
113.16	160166	34899	18611	45566
67.63	172535	4730	8637	23896
1039.37	598990	88650	62762	2943099
172.72	156300	6769	5552	82670
372.78	351131	17491	17364	127667
645.08	775998	296476	409773	436567
34.00	142049	42884	23848	74828
340.44	392061	81282	64292	141867
86.89	88393	15222	12832	13648
251.84	218637	64846	33732	70593
131.13	201125	34284	16803	151705
46.50	16000	1670	1899	2850
141.84	266500	24754	6894	116546

Figure 4. Statistics on Radio and TV Universities